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Micro-Chip Implant: Would you get one?



Arslan Afzaal

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DE MONTFORT UNIVERSITY

Leicester, UK

Abstract

Microchip implant is the process of implanting a chip into a human. The frequently used chip implant is the Radio Frequency Identification (RFID) chip. The chip contains sub branches such as 'Verichip', 'VeriMed' etc. This chip is very small and can be easily and safely injected using a hypodermic syringe. This chip provides vast benefits in the medical industry such as being able to record patient's entire history, and providing fast retrieval of information compared to paper based records, simply by using a RFID scanner. Despite the chip containing great benefits it possesses darker sides that can affect the society as a whole, this paper examines the applications for RFID microchip; also discussing the downfalls the chip contains. It is evident to note that society is now beginning to accept this especially because of terrorist attacks and natural disasters. The paper asks the question would you get the chip after weighing the pros and cons.

Keywords: Microchip, RFID, Medical Industry, Implant, Ethical, Social, Advantages, Disadvantages, Verichip, VeriMed, Monitoring, Controlling

1. Introduction

The most common human chip implant is the radio frequency identification (RFID) chip. This chip is as small as a glass capsule; its size is of a grain of rice that encloses a microchip and antenna coil. The chip uses magnetism for powering. The chip can be injected in the forearm or hand using a hypodermic syringe. This chip possesses the ability to revolutionise human life. Micro chipping is the process of implanting a chip into a living human that can provide automatic identification of a person. Prior to this technology ancient civilisations used tattoos and finger prints to identify humans. Identification is just one of its vast benefits, other benefits include monitoring, regulating the body, providing ease of access and control, all of which will be discussed in greater detail in the following sections.

2.1. Implanting Benefits: Medical Industry

The first RFID implant that could be safely injected into a human was the 'VeriChip' it contains identification number and is readable 10-15cm away with a simple (RFID) scanner. The ID number is long enough to uniquely identify every single individual around the world. The VeriChip contains a sub-version 'VeriMed', specially designed for the use in the medical industry it has also been approved by the Food and Drug Administration (FDA), for safe use.

VeriMed can identify patients in the health care database. This implantable technology holds many uses; the ID chip can store up to 128 bits of data. This can significantly benefit the medical industry, providing the ability to store entire patient's history on a small implantable device, therefore reducing the outcome of lost patient's records.

2.2. Inserting Microchip into joints

This microchip can be implanted into a surgically repaired joints i.e. knees or hips; however there are issues with placing chips into these surgically repaired joints, because artificial joints are made from metals which cause problems with interference signals.

Microchips are ideal to be placed on knees and hips, due to its small size and low cost, doctors and surgeons find this useful for obtaining information from a patient's body. Thus making implantable applications skyrocket in terms of quantity. Vital information can easily and immediately retrieved anytime and anywhere very useful to gain up to date information about patients organs.

2.3. Replacing Lost functions

The chip contains a growing market especially in the medical domain due to its vast advantages. The chip possesses the ability to directly intervene with the brain and possibly restore functions that are lost i.e. cardiovascular pacers, hearing disorders, implantable drug delivery pumps and can potentially be used to perform deep brain stimulation for patients with Parkinson disease. Implantable technologies are being occupied by the deaf for aiding them to hear, and could potentially facilitate the blind to see in the future along with other functional neural deficits. The chip can provide a mechanism for being able to cope with diabetes, cancer, autoimmune and inflammatory diseases via automated drug delivery technologies.

2.4. Monitoring & Regulating the Body

RFID implant can be used to monitor recently treated areas in the body; due to its battery free feature; it can monitor any time of the day; along with displaying chemical changes of the tissues, healing processes and other complications. There are suggestions that the microchip can potentially

increase intelligence, by stimulating the brain functions and how the nerves operate in the brain, one may ask is this ethically correct to modify human functions, over 'natural' human functions?

2.5. Medical Example

A real world example where this technology could prevail is, if an individual is rushed into hospital unconscious; a simple RFID scanner can be used on the person's implant i.e. hand, forearm or shoulder, to identify the person, to retrieve the individual's medical record from the central database such as blood type, close family contact etc. This could potentially save time, and may save someone's life.

3. Implantable Benefits and Ethical Concerns

This technology will inevitably provide great benefits especially in the medical domain. Even though there are great benefits with this technology, there is a growing surveillance in society, and this technology could be portrayed as another technology used in the big brother state we live in.

3.1. Microchip Identification, Control and Convenience

The chip provides convenience to humans by allowing them to process transactions, access buildings with a simple swipe of their hands. Implants provide greater control for restricting personnel from restricted areas; this could benefit the military and the police to prevent crimes. This can moreover be used by parents to find lost children making this very useful for kidnapped children.

The world is moving forward very quickly especially in the technology field. The implants could potentially become a pre-requisite for employment in the near future to gain access to work and carry out certain duties to reduce unauthorised access. The similar concept can also be used to chip military soldiers thus replacing the traditional dog tags for lost, injured soldiers.

RFID implant provides a method to be identified to the system, it provides authentication to verify the person's identity and allow authentication for various actions i.e. gun control. An ethical issue that needs to be considered is this morally and legally correct to have every citizen on a central database to track and monitor them? Is our society moving to a totalitarian/ covert-fascism over its citizen's?

3.2. Baja Beach Club

The verichip has been used in practice at 'The Baja Beach Club' and the implementation of its members to be chipped for allowing them to pay faster and access certain areas of the club. The microchip implant is linked to the individual's bank account allowing them to immediately pay; with a swipe of their hand. Ethical issues arising from this is can their bank details be hacked into? Where is the data being stored? Who is looking at the data?

3.3. Societies laws

There is a moral, ethical and legal issue regarding this technology; however, it is difficult to predict the social concerns it may cause. Current laws regarding privacy are not responding fast enough, to this rapidly developing technology, which is being used to track humans. However to track animals via this technology is widely accepted. There is a wide belief that society is being controlled disproportionately with a top down power, and micro-chipping is just part of this agenda, to keep every citizen in check.

3.4. Microchip design advantages

RFID implant has advantages for identification; a RFID microchip contains rewritable memory large enough to store and update contents on the chip i.e. complete patient's history. The read time for reading an RFID chip is only few seconds compared to paper based records; the information would always be kept on the implant and there is no worry of data loss, critics may ask, what if there is a malfunction in the chip, is the data lost?, or is it backed up in a central database? Can the malfunction cause other diseases to the individual?

The RFID is also very small almost the size of a grain of rice making it easily implantable without a major surgery, it can simply be done in the doctor's office with local anaesthetic. The RFID can last a very long time provided there is no internal malfunction of the device; also it does not require batteries it is internally powered using magnets.

3.5. Microchip design limitations

The RFID implantable chip possesses limitation especially due to its short range transmission; if the range could be increase and networked. The medical physician can have timeless and ease of access to monitor the patient's biological records. There is however, ethical concerns how can you ensure the patient being monitored remotely, is being monitored for medical reasons? Or is there a hidden agenda? Also what if the medical professional modifies data remotely, would this impact the individual, would that be ethical, with or without them knowing?

3.6. Further Ethical Issues

Implanting humans provide, ability to observe and track who, what, where, when and how humans live their life this is referred to as 'uberveillance'. Micro chipping raises various ethical themes that need to be considered 'tracking and profiling of individuals', 'Invisibility', 'Data collection' and 'Health Risks'.

A corporation considering using verichip for its employees, must require the implantee's information to be stored into a special database, which is safe, backed up and virus free of course. Another problem is the chip contains a special coating, to which flesh grows into and thus causing removal of the chip to be painful. The chip must comply with the data protection act to protect personal data embedded on the chip. Individuals, whom have been implanted, may be subject to surveillance, although this is always justifiable for security and safety reasons.

3.7. Public Views

The general public have expressed fears regarding this technology on how easy it is for hackers to hack into the verichip frequency and steal important information. Despite the great benefits the chip provides, there is a darker side, i.e. privacy and the right to bodily integrity. Bodily integrity organises a right to do with an individual being harmed by others, this could be a computer virus infecting an implanted device, if this does occur this could be an infringement on the 'right to bodily integrity'. There is a risk the chip could be infected with a virus due to its communication through a variety of databases and devices, if a virus was to occur this is considered an 'infringement on the right to the bodily integrity'.

The list of proposed benefits the chip provides is growing, it is important to examine carefully the real dangers of implanting humans; it poses to our privacy and our freedom, if we don't figure out the risks and a method to mitigate them. It is important to consider whilst the chip is embedded in the individual and is collating data, who actually owns the data on the chip, does it belong to the individual or the company?

Various authors have made profound statements such as this technology should not be used by governments; it invades privacy and can lead to a totalitarian control of the population; it can be exploited by police, parents, employees and hackers. The chip has the potential to carry all personal information and is considered by civil libertarians to be crypto-fascism or high-tech slavery.

3.8. In favour of the technology

Implants seem to be ethically unproblematic; however, they pose risks to human dignity by not respecting the self-sufficiency rights of the individuals. Those in favour of this technology go as far as suggesting micro-chipping, the future offspring's would evolve the future generations, by making their bodies more in tune and align to technologies. To a certain degree this is true however; micro chipping from a young age can be harmful to the individual, especially due to the radiation.

Technologies advances are part of human evolution, employing this technology into society will affect the society and its identity.

Research has suggested people's views are now changing; people are now accepting this throughout many cultures. A suggested reason for this is due to natural disasters and high profile terrorist attacks, the masses feel safe with this technology because they can be identified and tracked.

3.9. Opposing the technology

There are some who totally reject the use of this technology according to biblical verses (Rev 13:18). Scholars have for hundreds of years been writing on this topic, and some refer to this technology as "Mark of the Beast". The meaning behind this is that society will be moving towards a total totalitarian society where every movement of society will be logged. It is considered more like being in a prison without the bars.

4. Conclusion

In conclusion implantable RFID technology provides great advantages to the society especially in the medical domain; it provides a method for an individual to be identified. The technology would provide great care, convenience and control to individuals and would replace bank cards; it would be secured into the person's body, reducing the possibility of theft and will require no need for passwords. Despite its infinite advantages, this technology possesses many disadvantages, especially issues with surveillances; tracking; data protection and possibly health risks, the technology is not fully usable due to its complexity, wireless devices could interfere with the chip, also the implantee may get a virus through the chip and removal of the chip is a painful process, this technology is also invisible to the naked eye. As an individual who is (not yet) micro-chipped; it is difficult to draw a line, for it to be acceptable or to reject; this technology as a whole to be operational on civilians; should society compromise its benefits for its many drawbacks?

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